

PCT

特許協力条約に基づいて公開された国際出願



(51) 国際特許分類6 A01K 67/027, C12N 5/16, C12P 21/08	A1	(11) 国際公開番号 WO97/07671 (43) 国際公開日 1997年3月6日(06.03.97)																																				
(21) 国際出願番号 PCT/JP96/02427		押村光雄(OSHIMURA, Mitsuo)[JP/JP] 〒683 烏取県米子市西町86 鳥取大学医学部生命科学科内 Tottori, (JP)																																				
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吉田 均(YOSHIDA, Hitoshi)[JP/JP] 石田 功(ISHIDA, Isao)[JP/JP] 〒236 神奈川県横浜市金沢区福浦1-13-5 麒麟麦酒株式会社 基盤技術研究所内 Kanagawa, (JP)		添付公開書類 国際調査報告書																																				
花岡和則(HANAOKA, Kazunori)[JP/JP] 〒228 神奈川県相模原市北里1-15-1 北里大学理学部生物学科内 Kanagawa, (JP)		26																																				
(54) Title: CHIMERIC ANIMAL AND METHOD FOR CONSTRUCTING THE SAME																																						
(54) 発明の名称 キメラ動物およびその作製法																																						
(57) Abstract A method for constructing a chimeric nonhuman animal which comprises preparing microcells containing one or more foreign chromosomes or fragments of the same, and transferring the foreign chromosome(s) or fragments of the same into cells having differentiative pluripotency via the fusion with the microcells; a chimeric nonhuman animal which can be constructed by the above method and offsprings of the same; tissues and cells originating in the same; a method for utilizing the tissues and cells; cells which contain one or more foreign chromosomes or fragments of the same and sustain differentiative pluripotency; a method for constructing the cells; and a method for utilizing the cells.																																						
<p>FISHによる結果</p> <table border="1"> <tr> <th></th> <th>9</th> <th>10</th> <th>14</th> <th>22</th> <th>A9#22</th> </tr> <tr> <td>e</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>f</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>g</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>h</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>i</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table>				9	10	14	22	A9#22	e	●	●	●	●	●	f	●	●	●	●	●	g	●	●	●	●	●	h	●	●	●	●	●	i	●	●	●	●	●
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g	●	●	●	●	●																																	
h	●	●	●	●	●																																	
i	●	●	●	●	●																																	
<p>a ... Retention of human chromosome No. 22 (fragment) in E14-tolerant strain (PCT analysis)</p> <p>b ... polymorphism and gene marker names</p> <p>c ... short arm</p> <p>d ... long arm</p> <p>e ... observation by FISH</p> <p>f ... translocating</p> <p>g ... independent</p>																																						

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP96/02427

## A. CLASSIFICATION OF SUBJECT MATTER

Int. C1<sup>6</sup> A01K67/027, C12N5/16, C12P21/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int. C1<sup>6</sup> A01K67/027, C12N5/16, C12P21/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Ted K. Choi et al., Nature Genetics Vol. 4, p. 117-123 (1993)	1 - 31
Y	I. Jean McGowan-Jordan et al., Cancer Res. Vol. 54, p. 2568-2572 (1994)	1 - 31
Y	P.J. Saxon et al., EMBO J. Vol. 5, No. 13, p. 3461-3466 (1986)	1 - 31
Y	M. Koi et al., Jpn. J. Cancer Res. Vol. 80, p. 413-418 (1989)	1 - 31

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

November 22, 1996 (22. 11. 96)

Date of mailing of the international search report

December 3, 1996 (03. 12. 96)

Name and mailing address of the ISA/

Japanese Patent Office

Facsimile No.

Authorized officer

Telephone No.

## A. 発明の属する分野の分類(国際特許分類(IPC))

Int. Cl. \* A01K 67/027, C12N 5/16, C12P 21/08

## B. 調査を行った分野

調査を行った最小限資料(国際特許分類(IPC))

Int. Cl. \* A01K 67/027, C12N 5/16, C12P 21/08

最小限資料以外の資料で調査を行った分野に含まれるもの

国際調査で使用した電子データベース(データベースの名称、調査に使用した用語)

BIOSIS

## C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
Y	Ted K. Choi et al, Nature Genetics vol. 4, p. 117-123 (1993)	1-31
Y	I. Jean McGowan-Jordan et al, Cancer Res. vol. 54, p. 2568-2572 (1994)	1-31
Y	P. J. Saxon et al, EMBO J. vol. 5 no. 13, p. 3461-3466 (1986)	1-31
Y	M. Koi et al, Jpn. J. Cancer Res. vol. 80 p. 413-418 (1989)	1-31

 C欄の続きにも文献が列挙されている。 パテントファミリーに関する別紙を参照。

## \* 引用文献のカテゴリー

- 「A」特に関連のある文献ではなく、一般的技術水準を示すもの  
 「E」先行文献ではあるが、国際出願日以後に公表されたものの  
 「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献(理由を付す)  
 「O」口頭による開示、使用、展示等に言及する文献  
 「P」国際出願日前で、かつ優先権の主張の基礎となる出願

## の日の後に公表された文献

- 「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの  
 「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの  
 「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの  
 「&」同一パテントファミリー文献

## 国際調査を完了した日

22.11.96

## 国際調査報告の発送日

03.12.96

## 国際調査機関の名称及びあて先

日本国特許庁 (ISA/JP)

郵便番号100

東京都千代田区霞が関三丁目4番3号

## 特許庁審査官(権限のある職員)

長井 啓子

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電話番号 03-3581-1101 内線 3236

## Derwent abstract of WO 97/07671

4/9/1  
DIALOG(R) File 351:Derwent WPI  
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011200897  
WPI Acc No: 1997-178822/199716

XRAM Acc No: C97-057484

XRPX Acc No: N97-147428

Chimeric animal containing foreign chromosome - for expression of a foreign gene, e.g. an antibody

Patent Assignee: KIRIN BEER KK (KIRI ); KIRIN BREWERY KK (KIRI )

Inventor: HANAOKA K; ISHIDA I; OSHIMURA M; TOMIZUKA K; YOSHIDA H

Number of Countries: 066 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9707671	A1	19970306	WO 96JP2427	A	19960829	199716 B
EP 773288	A2	19970514	EP 96113839	A	19960829	199724
AU 9668376	A	19970319	AU 9668376	A	19960829	199728
EP 773288	A3	19970709	EP 96113839	A	19960829	199740
JP 9510126	X	19980224	WO 96JP2427	A	19960829	199818
			JP 97510126	A	19960829	
EP 843961	A1	19980527	EP 96928694	A	19960829	199825
			WO 96JP2427	A	19960829	
CN 1200014	A	19981125	CN 96197787	A	19960829	199915
JP 11313576	A	19991116	JP 97510126	A	19960829	200005
			JP 9978572	A	19960829	
JP 3030092	B2	20000410	WO 96JP2427	A	19960829	200023
			JP 97510126	A	19960829	
AU 718138	B	20000406	AU 9668376	A	19960829	200027
KR 99044300	A	19990625	WO 96JP2427	A	19960829	200036
			KR 98701537	A	19980228	

Priority Applications (No Type Date): JP 9627940 A 19960215; JP 95242340 A 19950829

Cited Patents: No-SR.Pub; 3.Jnl.Ref

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9707671 A1 J 142 A01K-067/027

Designated States (National): AL AM AU BB BG BR CA CN CU CZ EE GE HU IL IS JP KG KR LK LR LT LV MD MG MK MN MX NO NZ PL RO SG SI SK TR TT UA US UZ VN

Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

EP 773288 A2 E 108 C12N-015/00

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

AU 9668376 A A01K-067/027 Based on patent WO 9707671

EP 773288 A3 A01K-067/027

JP 9510126 X A01K-067/027 Based on patent WO 9707671

EP 843961 A1 E A01K-067/027 Based on patent WO 9707671

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

CN 1200014 A A01K-067/027

JP 11313576	A	60 A01K-067/027	Div ex application JP 97510126
JP 3030092	B2	65 A01K-067/027	Based on patent WO 9707671
AU 718138	B	A01K-067/027	Previous Publ. patent AU 9668376
			Based on patent WO 9707671
KR 99044300	A	A01K-067/027	Based on patent WO 9707671

**Abstract (Basic): WO 9707671 A**

A new chimeric non-human animal, pref. a mouse, containing a foreign chromosome(s) or fragments thereof, is produced as follows: (1) a hybrid cell is obtained by fusion of a cell containing the foreign chromosome with a cell having the ability to form microcells; (2) preparing microcells, and fusing with cells having differentiative pluripotency to form cells having differentiative pluripotency and containing the foreign chromosome; (3) introducing these cells into an embryo, then implanting and bringing to term.

**USE -** The expression of foreign genes (esp. human genes) in a non-human animal is useful for efficient production of proteins, esp. of human antibodies.

Dwg.0/25

Title Terms: CHIMERIC; ANIMAL; CONTAIN; FOREIGN; CHROMOSOME; EXPRESS; FOREIGN; GENE; ANTIBODY

Derwent Class: B04; D16; P14

International Patent Class (Main): A01K-067/027; C12N-015/00

International Patent Class (Additional): C07K-016/00; C12N-005/10; C12N-005/16; C12N-015/02; C12N-015/08; C12N-015/90; C12P-021/08

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): B04-P0100E; B04-P01E; D05-H09; D05-H16A

Chemical Fragment Codes (M1):

\*01\* M423 M710 M903 N135 Q233 V600 V644

\*02\* M423 M720 M903 N136 Q233 V600 V611 V752

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